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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,668	01/11/2001	Fred L. Starkey	1981/637	9539

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03/29/2002

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EXAMINER

GOINS, DAVETTA WOODS

ART UNIT

PAPER NUMBER

2632

DATE MAILED: 03/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/758,668

Applicant(s)

STARKEY, FRED L.

Examiner

Davetta W. Goins

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2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: .

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 11, 12, 13, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogusu et al. (US Pat. 5,753,809).

In reference to claims 1-6, 11, 12, 13, 18-20, Ogusu discloses the claimed plurality of tire monitors associated with wheels of a vehicle, each wheel including a tire having a characteristic frequency response, each tire monitor including a transmitter configured to transmit tire data at a transmission frequency chosen in relation to the characteristic frequency response of the tire; and a receiver configured to receive the tire data, which is met by four wheel speed sensors 10FR, 10FL, 10RR, and 10RL for each tire of the vehicle; a display 30 for displaying a result of determination made by a signal processor 20 regarding the tire pressure (col. 6 lines 47-67 and col. 7 lines 1-25). The wheel speed signal includes a resonance frequency; a filter 212 employed in the pressure of the tire is known to have a range 32 Hz to 40 Hz; a filter 212 employed in the tire pressure estimating system is a fourth-order Butterworth filter which has a passband of 30 Hz to 45 Hz (col. 9 lines 18-36).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogusu et al.

In reference to claims 7, 8, although Ogusu does not disclose the claimed metallic strands of a predetermined length defining in part the characteristic frequency of the tire, he does disclose four wheel speed sensors 10FR, 10FL, 10RR, and 10RL mounted on each tire of the vehicle for producing various frequencies indicating the pressure of each tire (col. 6 lines 47-67 and col. 7 lines 1-25). Since Ogusu discloses a sensor for each tire of the vehicle, it would have been obvious to one of ordinary skill in the art to provide metallic strands of a specific frequency as a means for securing the sensor to each wheel and taking into account the characteristic of the metallic strands when receiving the transmitted signals to ensure that a correct pressure reading will be determined.

In reference to claims 9, 10, although Ogusu does not disclose the claimed transmitter configured to transmit frequencies greater than 600 MHz or a range from 800 MHz to 1000 MHz, he does disclose wheel speed signal includes a resonance frequency; a filter 212 employed in the pressure of the tire is known to have a range 32 Hz to 40 Hz; a filter 212 employed in the tire pressure estimating system is a fourth-order Butterworth filter which has a passband of 30 Hz to 45 Hz

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(col. 9 lines 18-36). Since Ogusu discloses a sensor for each wheel transmitting various frequencies that are received by a receiving unit, it would have been obvious to one of ordinary skill in the art to use any frequency wanted to prevent interference from any other transmitted signals within the vehicle.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogusu et al. in view of Uhl et al. (US Pat. 6,169,480 B1).

In reference to claim 14, Ogusu does not disclose the claimed demodulation of the radio carrier signal to recover the tire data. Uhl discloses a vehicle tire pressure detecting device with sensors mounted on each tire; the sensors transmitting signals to receivers 15 and 16 comprising a demodulator (col. 3 lines 31-48). Since Ogusu discloses a sensor for each wheel transmitting various frequencies that are received by a receiving unit, it would have been obvious to one of ordinary skill in the art to incorporate a demodulator, as disclosed by Uhl, with the system of Ogusu, such that transmitted frequencies carrying a coded signal indicating the pressure of the tires can be received.

6. The prior art of record and not relied upon is considered pertinent to applicant's disclosure as follows. Nowicki et al. (US Pat. 5,285,189), 5,289,160, and Nowicki et al. (US Pat. 5,945,908), which are references that include systems which detect the tire pressure of each wheel of the vehicle.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davetta W. Goins whose telephone number is 703-306-2761.

The examiner can normally be reached on 4-5-9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on 703-305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-7666.



D.W.G.
March 24, 2002

Davetta W. Goins
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